



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/764,013

01/23/2004

Wade Brown

E0055/286677

8961

20995

7590

06/07/2006

KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER

MACKEY, JAMES P

ART UNIT

PAPER NUMBER

1722

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/764,013	BROWN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	James Mackey	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-22,24-33 and 35-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-22,24-33 and 35-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1722

1. Claim 32 is objected to because of the following informalities: on the last line of claim 32, “conveyers” is misspelled. Appropriate correction is required.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, lines 4-5, “between at least one flat endless belt of the at least two first or second opposed flat endless belts and the rigid supporting surface” is indefinite, since the rigid supporting surface as defined in claim 1 cooperates only with the first opposed flat endless belts, and therefore it is not seen how the holes and plenum chamber of claim 8 may cooperate with the second opposed flat endless belts.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4, 9, 14, 16, 17, 21, 27, 29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Saeki et al. (U.S. Patent 5,340,300; Figs. 2-8 and 13; col. 4, lines 31-45, col. 5, lines 13-31, and col. 7, lines 34-42).

Saeki et al. teach an apparatus and process for molding a reinforced foamed thermosetting resin by introducing molding material into an end of a mold cavity 6 formed by inner surfaces of first and second orthogonal pairs of opposed, adjustably mounted flat belts 2-5

Art Unit: 1722

(col. 4, lines 31-45) which may be driven by a drive mechanism (col. 7, lines 34-42), supporting outer surfaces of the belts by rigid support plates 9 (Figures 6-8 and col. 5, lines 13-31), exerting pressure on the moldable material through the belts while the material is transferred along the mold cavity by longitudinal movement of the belts via a drive mechanism during curing/hardening of the material, and removing the molded material from the mold cavity.

6. Claims 1, 4-6, 9, 14, 17, 21, 24, 25, 27, 29, 30, 32, 35 and 36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kitahama et al. (U.S. 2001/0009683; Figures 1-3).

Kitahama et al. clearly teach an apparatus and process for molding a foamed resin material by introducing molding material into an end of a mold cavity A formed by inner surfaces of first and second orthogonal pairs of opposed adjustably mounted flat belts 3, 5, 17, 18, supporting outer surfaces of the belts by rigid support plates 7-10, exerting pressure on the moldable material through the belts while the material is transferred along the mold cavity by longitudinal movement of the belts via a drive mechanism (paragraph 18) during hardening of the material, and removing the molded material from the mold cavity. Kitahama et al. further teach the use of PTFE friction reducing substance between the outer surface of the belts and the rigid supporting surface (paragraph 20).

7. Claims 1, 4, 14, 16, 17, 20, 21, 29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwata et al. (U.S. Patent 4,330,494; Figures 4-5).

Iwata et al. teach an apparatus and process for molding a reinforced foamed thermosetting resin (col. 4, lines 53-56) by introducing molding material into an end of a mold cavity 6 formed by inner surfaces of first and second orthogonal pairs of opposed flat belts 61, 61' (or 63), and side belts (col. 7, lines 40-41, col. 13, line 31), supporting outer surfaces of the

Art Unit: 1722

belts by rigid supports (col. 7, lines 42-46), exerting pressure on the moldable material through the belts while the material is transferred along the mold cavity by longitudinal movement of the belts via a drive mechanism (col. 7, lines 65-66) during curing/hardening of the material, and removing the molded material from the mold cavity, forming a structural construction material suitable for walls, floors, benches and verandas (col. 1, line 40, col. 2, lines 25-30, col. 3, lines 19-20).

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 1722

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1, 4, 5, 9, 14, 16, 17, 20, 21, 24, 27, 29, 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berner (U.S. Patent 3,065,500; Figures 1-3; col. 2, lines 13-61) in view of Sagane et al. (U.S. Patent 3,917,774; Figures 2 and 4; col. 9, lines 8-9).

Berner discloses an apparatus and process for molding foamed material by introducing moldable material into an end of a mold cavity 66 formed by inner surfaces of first and second orthogonal pairs of opposed, adjustably mounted flat endless belts 20, 22, 54, 56 (col. 2, lines 13-47), supporting outer surfaces of each of the belts by support rollers 74, 76, exerting pressure on the moldable material through the belts while the material is transferred along the mold cavity by longitudinal movement of the belts via drive mechanism 52 during curing/hardening of the material, and removing the molded material from the mold cavity. Berner does not disclose the support for each of the belts as being “a rigid supporting surface” comprised of a platen, and does not disclose a coating of a friction reducing substance between the outer surface of the belt and the rigid supporting surface (claims 5, 24 and 35).

Sagane et al. disclose an apparatus and process for molding foamed material by introducing material into an end of a mold cavity formed by inner surfaces of first and second orthogonal pairs of opposed flat endless belts and supporting outer surfaces of each of the belts, wherein the support may be a rigid plate/tube 9 or rollers 12-15 (col. 9, lines 8-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Berner by providing the support for each of the belts as a rigid supporting plate, since such is equivalent to belt-supporting rollers as disclosed in Sagane et al.

Art Unit: 1722

With respect to the friction reducing coating between the outer surface of the belt and the rigid supporting surface, such is disclosed in Sagane et al. (see col. 7, lines 55-65; col.16, lines 6-7), and it would have been obvious to a skilled artisan to modify Berner by utilizing such a friction-reducing coating in order to facilitate the belt movement adjacent the rigid supporting surface. Moreover, Sagane et al. disclose molding of foamed thermosetting plastic to form a synthetic lumber (see, for example, col. 16, line 30), and it would have been obvious to a skilled artisan to modify the process of Berner by molding a foamed thermosetting plastic in order to form a synthetic lumber product, as suggested by Sagane et al., since such were conventional materials and products produced by a foam molding machine having cooperating endless belts.

12. Claims 1, 2, 4, 5, 10-22, 24, 28, 29, 32, 33, 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kemerer et al. (U.S. Patent 4,128,369; Figures 23-24; col. 1, lines 24-32, col. 12, lines 41-45, col. 13, lines 1-3, col. 27, lines 1-33) in view of Sagane et al. (U.S. Patent 3,917,774; Figures 2 and 4; col. 9, lines 8-9).

Kemerer et al. '369 teach an apparatus and process for molding a foamed siding or roofing product (col. 1, lines 24-32; col. 7, line 38) by introducing moldable material into an end of a mold cavity formed by inner surfaces of first and second orthogonal pairs of opposed flat belts 36, 38, 340, 342 (Figs. 23-24; col. 27, lines 1-33), the belts having pairs of opposing profile mold belts 40, 40A, 352, 354 in contact with the inner surfaces of the first and second pairs of belts (at elements 42, 118, 356, 358) for imparting a profile shape to the molded product wherein the mold belts are formed of an elastomeric face layer with a reinforced backing layer (col. 12, lines 41-45; col. 13, lines 1-3), providing tensioning pulley means for supporting the mold belts (col. 16, lines 18-21), supporting outer surfaces of the first and second pairs of belts by support

Art Unit: 1722

rollers 100, 350, exerting pressure on the moldable material through the belts while the material is transferred along the mold cavity by longitudinal movement of the belts via drive mechanism 84 during hardening of the material, and removing the molded product from the mold cavity.

Kemerer et al. '369 do not disclose the support for each of the belts as being "a rigid supporting surface" comprised of a platen, and does not disclose a coating of a friction reducing substance between the outer surface of the belt and the rigid supporting surface (claims 5, 24 and 35).

Sagane et al. disclose an apparatus and process for molding foamed material by introducing material into an end of a mold cavity formed by inner surfaces of first and second orthogonal pairs of opposed flat endless belts and supporting outer surfaces of each of the belts, wherein the support may be a rigid plate/tube 9 or rollers 12-15 (col. 9, lines 8-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kemerer et al. '369 by providing the support for each of the belts as a rigid supporting plate, since such is equivalent to belt-supporting rollers as disclosed in Sagane et al.

With respect to the friction reducing coating between the outer surface of the belt and the rigid supporting surface, such is disclosed in Sagane et al. (see col. 7, lines 55-65; col. 16, lines 6-7), and it would have been obvious to a skilled artisan to modify Kemerer et al. '369 by utilizing such a friction-reducing coating in order to facilitate the belt movement adjacent the rigid supporting surface. Moreover, Sagane et al. disclose molding of foamed thermosetting plastic to form a structural product (see, for example, col. 16, line 30), and it would have been obvious to a skilled artisan to modify the process of Kemerer et al. '369 by molding a foamed thermosetting plastic in order to form a structural product, as suggested by Sagane et al., since



Art Unit: 1722

such were conventional materials in a foam molding process utilizing a foam molding machine having cooperating endless belts to form a structural product.

13. Claims 5-8, 24-26, 30, 31 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Kitahama et al. or Iwata et al., in view of Kemerer et al. (U.S. Patent 5,700,495; Figures 7 and 10; col. 18, line 57 through col. 20, line 67).

Each of Kitahama et al. and Iwata et al. disclose the apparatus substantially as claimed (as described above), except for lubrication means between the belt and the support surface being either a low-friction polymer or an air-film lubrication system. Kemerer et al. '495 disclose a belt molding apparatus including a pair of opposed mold belts 26, 28 (Figs. 1 and 10; col. 19, line 63 through col. 20, line 67) having outer surfaces supported by guide platens 227, 231, wherein a fluoropolymer coating 242 is provided between each belt and respective guide platen, and wherein an air-film lubrication system, including air plenums 250, 251, is also provided between each belt and respective guide platen. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of either Kitahama et al. or Iwata et al. by providing lubrication means of either a fluoropolymer or air-film lubrication system, as disclosed in Kemerer et al. '495, in order to improve the motion of the moving belt on the support platen surface.

14. Claims 6-8, 25, 26, 30, 31, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berner in view of Sagane et al. as applied to claims 1, 4, 5, 9, 14, 16, 17, 20, 21, 24, 27, 29, 32 and 35 above, and further in view of Kemerer et al. (U.S. Patent 5,700,495; Figures 7 and 10; col. 18, line 57 through col. 20, line 67).

Berner, in combination with Sagane et al., discloses the apparatus substantially as claimed, except for the lubrication means between the belt and the support surface being either a low-friction polymer or an air-film lubrication system. Kemerer et al. '495 disclose a belt molding apparatus including a pair of opposed mold belts 26, 28 (Figs. 1 and 10; col. 19, line 63 through col. 20, line 67) having outer surfaces supported by guide platens 227, 231, wherein a fluoropolymer coating 242 is provided between each belt and respective guide platen, and wherein an air-film lubrication system, including air plenums 250, 251, is also provided between each belt and respective guide platen. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Berner, in combination with Sagane et al., by providing the lubrication means as either a fluoropolymer or air-film lubrication system, as disclosed in Kemerer et al. '495, in order to improve the lubrication of the moving belt on the support platen surface.

15. Claims 6-8, 25, 26, 30, 31, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kemerer et al. '369 in view of Sagane et al. as applied to claims 1, 2, 4, 5, 10-22, 24, 28, 29, 32, 33, 35 and 39 above, and further in view of Kemerer et al. (U.S. Patent 5,700,495; Figures 7 and 10; col. 18, line 57 through col. 20, line 67).

Kemerer et al. '369, in combination with Sagane et al., disclose the apparatus substantially as claimed, except for the lubrication means between the belt and the support surface being either a low-friction polymer or an air-film lubrication system. Kemerer et al. '495 disclose a belt molding apparatus including a pair of opposed mold belts 26, 28 (Figs. 1 and 10; col. 19, line 63 through col. 20, line 67) having outer surfaces supported by guide platens 227, 231, wherein a fluoropolymer coating 242 is provided between each belt and respective guide

Art Unit: 1722

platen, and wherein an air-film lubrication system, including air plenums 250, 251, is also provided between each belt and respective guide platen. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Kemerer et al. '369, in combination with Sagane et al., by providing the lubrication means as either a fluoropolymer or air-film lubrication system, as disclosed in Kemerer et al. '495, in order to improve the lubrication of the moving belt on the support platen surface.

16. Claims 9, 27 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kemerer et al. '369 in view of Sagane et al. as applied to claims 1, 2, 4, 5, 10-22, 24, 28, 29, 32, 33, 35 and 39 above, and further in view of any one of Berner, Kitahama et al. and Saeki et al.

Kemerer et al. '369, in combination with Sagane et al., disclose the apparatus substantially as claimed, except for at least one of the belts being adjustably positioned. Each of Berner, Kitahama et al. and Saeki et al. disclose a belt molding apparatus including opposed pairs of belts wherein at least one of the belts is adjustably positioned such that the dimensions of the mold cavity may be selectively varied. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Kemerer et al. '369, in combination with Sagane et al., by providing at least one of the belts as being adjustably positioned, as disclosed in any one of Berner, Kitahama et al. and Saeki et al., in order to selectively vary the dimensions of the mold cavity and thereby selectively mold products of differing dimensions.

17. Applicant's arguments with respect to claims 1, 2, 4-22, 24-33 and 35-39 have been considered but are moot in view of the new ground(s) of rejection.

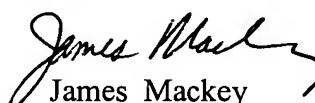
18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 1722

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mackey whose telephone number is 571-272-1135. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



James Mackey  
Primary Examiner  
Art Unit 1722

6/5/06

jpm  
June 5, 2006